UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

SEP 14 1990

REPLY TO ATTENTION OF: 5CS-TUB-3

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Dennis Reis
Sidley & Austin
One First National Plaza
Suite 5400
Chicago, IL 60603

Dear Mr. Reis:

On September 4, 1990, the U.S. EPA Office of Regional Counsel received an offer from the NL Industries/Taracorp Steering Committee to perform the remedial design and remedial action at the NL Industries/Taracorp Superfund Site (NL Site) in Granite City, Illinois. The offer is dated August 31, 1990. The purpose of this letter is to inform the PRP committee that the offer received by U.S. EPA does not constitute a "good faith" offer as that term is defined in the special notice letter U.S. EPA sent to members of the committee.

A good faith offer must not be significantly different from U.S. EPA's Record of Decision (ROD). The ROD specifies that the cleanup of the NL Site must include a soil-lead cleanup of no more than 500 parts per million (ppm) lead in soil. The primary reason the committee's offer does not form the basis for formal negotiations is the offer's failure to accept the 500 ppm cleanup standard.

The committee's offer contains an extensive discussion of the appropriate cleanup standards at the NL Site. The discussion indicates a number of misconceptions regarding the cleanup standard and how it was chosen. The remainder of this letter will briefly list some of these differences.

1. The committee's proposal to reconsider the 500 ppm cleanup standard ignores the primary site specific reasons U.S. EPA selected the cleanup standard. To reiterate our previous comments on this matter, the soil at the NL Site is documented as containing elevated levels of lead. The lead is the result of smelter emissions. Smelter operations in Granite City resulted in the emission of small, highly bioavailable lead particles. Low exposures to this form of lead have been shown to have significant health effects on children. The industrial nature of Granite City may make children especially sensitive to the toxic effects of these particles due to the synergistic interaction of lead with

other toxic substances. The zone of contamination at the NL Site is a residential area, provides unrestricted access to the many children who visit and live in the contaminated area, and leaves the population vulnerable to a number of exposure paths. Appendix B of the ROD contains a more detailed discussion of these and other reasons for U.S. EPA's selection of the cleanup standard.

2. The Committee has misunderstood EPA's use of the Integrated Uptake/Biokinetic Model (the "biokinetic model") in the Record of Decision for the NL Site. Comments in the public response of NL Industries suggested that the EPA Integrated Uptake/Biokinetic Model has been "demonstrated to be a reliable analytical method to determine the relationship between environmental lead concentrations and blood lead concentrations for EPA lead rulemaking." EPA has stated that the Biokinetic Model has not yet been approved for use in setting cleanup levels at Superfund sites. EPA did not rely on use of the biokinetic model in its selection of cleanup standards at the NL Site. However, EPA did consider and discussed the biokinetic model in the NL ROD and determined that even a liberal interpretation of the model supported the selected cleanup standard. The choices of default parameters used in the model were those suggested by the commenters. U.S. EPA did not necessarily agree with the validity of those assumptions. An example is the use of the 15 ug/dl level for lead in blood in U.S. EPA's application of the model. This number was used at the commenters' request, but is actually 50% higher than acceptable. A more commonly accepted -- and better -- standard is 10 ug/dl of lead in the blood of children. It is noteworthy that the application of the commenters' suggested parameters in the model demonstrated that the selected cleanup level of 500 ppm lead in soil is at the high end of any acceptable range.

3. It is evident from the committee's comments on the Integrated Uptake/Biokinetic Model that the committee is aware of the extensive review U.S. EPA has made of this model. We appreciate the committee's critique of the model and suggest that general comments on the use of the model be addressed to Chris DeRosa at U.S. EPA's Office of Health and Environmental Assessment in Cincinnati. Region V has not been involved in the development of this model.

4. The basis of the committee's present criticism of the biokinetic model was not presented during the public comment period. Nevertheless, the information presented by the committee does not support the need to alter the response action. The environmental consultants hired by the committee appear to rely on a lead study conducted in Midvale, Utah, to support their criticism of U.S. EPA's use of the biokinetic model in Granite City. The Midvale study was not available at the time of the ROD. Nevertheless, the study contains flaws which prohibit its use by Region V. One example of the flaws in the Midvale study is the

data set. The contractors for the Midvale study chose to edit the data in such a manner so as to discard data of children with the highest levels of lead in their blood. Such an approach is, at best, questionable.

For further response to the committee's suggestion that a blood-lead study should be utilized to determine the remedy at the NL Site, the committee should refer to section 2.2.2 "Biological Monitoring as a Measure of Exposure and Effects" in Toxicological Profile for LEAD, U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, ATSDR/TP-88/17, June, 1990. In examining the measurement of lead in blood as a method of exposure, ATSDR notes that

> "The half-life of lead in human blood is 28 to 36 days; thus, levels of lead in blood reflect relatively recent exposure compared with levels of lead in teeth [or bone], which continue to accumulate lead over time. Because lead cycles between the blood and bone, a single blood lead determination cannot distinguish between exposure to a given level for an extended period of time from a previous exposure to a high level that would result in the same blood level due to recycling from bone."

The ATSDR report further notes that the development of a technique using X-ray fluorescence to determine lead in bone may prove to be a valuable indicator of the body burden of lead. It is U.S. EPA's position, however, that the NL Site presents an imminent and substantial endangerment which requires prompt action.

5. Another inherent flaw in the committee's proposal is a fundamental misunderstanding of the biokinetic model, its use and its purposes. The model is designed to predict blood-lead levels which occur in individuals and utilizes a number of parameters, including soil-lead levels, in its predictions. The model, however, is not designed to do a reverse regression; it can not be used to determine appropriate levels of lead in soil based on blood-levels found in children at a particular time. This, however, is exactly what is proposed by your committee. In fact, the backward step-wise multiple regression programs that the committee has proposed to use do not exist in an acceptable form, if at all. U.S. EPA is engaged in a number of ongoing research programs which may generate the data required to develop the relationships between environmental lead sources and blood lead levels. Such data is incomplete at present, but suggests that these relationships may not be linear. For these reasons, the use of such a multiple regression program is not an EPA approved methodology.

In summary, the fundamental difference between the committee's offer and a good faith offer is the acceptance of the cleanup standards expressed in the ROD. The committee appears to propose that the ultimate cleanup of the site be dictated by the blood-lead levels of children in the area. U.S. EPA strongly believes that a blood study simply can not drive the remedy at a lead site. Blood lead levels merely provide a snap shot of an individual's exposure to lead. The levels are transient, will change from time to time, and are not a reliable means of determining an individual's actual exposure to lead.

U.S. EPA requests that all further contact in matters related to the NL Site be directed to Steven Siegel of our Office of Regional Counsel. Please contact Mr. Siegel if you or your committee believes there is a basis for any further discussions based upon a good faith offer.

Sincerely,

Norman R. Niedergang
Acting Associate Division Director
Office of Superfund